



# DATA SHEET

# MODELS 55S AND 55SW UNIDYNE II

## UNIDIRECTIONAL DYNAMIC MICROPHONES

**General:** The Models 55S and 55SW are extremely rugged microphones built to provide wide range reproduction of music and voice. The Cardioid unidirectional characteristic of the microphones provides highly satisfactory operation under adverse acoustic conditions where omnidirectional microphones may not operate properly. These microphones can be used closer to loudspeakers than usual, without creating feedback problems.

**The Models 55S-Gold and 55SW-Gold are identical to the Models 55S and 55SW respectively except Models 55S-Gold and 55SW-Gold have gold finish.**

The Models 55S and 55SW are ideal for high quality public address, theatre-stage sound systems, remote broadcasting recording applications and other sound applications such as those used in hotels, stadiums, and public auditoriums.

The microphones feature:

- An effective cardioid directional characteristic especially adapted for optimum performance in adverse acoustic environments.
- Response effective for announcing, narration, vocal music, and combo groups.
- Cartridge shock mounted for quiet operation.
- A strong detachable cable especially selected for good shielding from "hum" pickup.
- Very rugged mechanical design for reliable operation under severe conditions of use.
- A self-tensioning swivel permits tilting through 45° forward and 80° backward.

The Models 55S and 55SW are multi-impedance for connecting into microphone inputs rated at 25 to 50 ohms, 150 to 250 ohms, or into high impedance microphone inputs.

The low impedances are recommended where long cable lengths are required or under conditions of severe hum disturbance. The permissible cable length is practically unlimited, since neither response nor level is appreciably affected. For use with high impedance amplifiers, Shure Model A95A Line Matching Transformer is available for coupling the low impedance line to the amplifier input.

### Impedance Selection

Selection of the various impedances is accomplished by changing the position of the switch at the rear of the microphone. The switch positions are marked "L" for low impedance (25-50 ohms), "M" for medium impedance (150-250 ohms), and "H" for high impedance (35,000 ohms).

When using the microphone in low impedance, the black and white conductors are the "hot" conductors for balanced line connections to a standard low or medium impedance input amplifier; the shield lead is connected to the chassis or amplifier ground.

When using the microphone in high impedance, the white conductor is the "hot" conductor for connection to a high impedance amplifier; the black conductor and the shield are connected to the chassis or amplifier ground.



### OPTIONAL ACCESSORIES

Line Matching Transformer.....	A95A
Vibration-Isolation Stand.....	S39A
Desk Stand.....	S36A
Quick-Disconnect Isolation Unit .....	Model A47
Carrying Case .....	Model AC55

**Guarantee:** This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from the date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor.

**Shipping Instructions:** Carefully repack the unit and return it prepaid to the factory. If outside the United States, return the unit to your dealer or Authorized Shure Service Center for repair. The unit will be returned to you prepaid.

### MODELS 55S AND 55SW ARCHITECT'S SPECIFICATIONS

The microphone shall be Shure Model 55S, 55SW, or equivalent. The microphone shall be a moving coil type microphone with a frequency range of 50 to 15,000 Hz. This unit shall have a Cardioid horizontal polar characteristic. The cancellation at the sides shall be approximately 6 db and the cancellation at the rear shall be in the order of 15 db. The microphone shall be equipped with a three-position impedance change switch for adjusting the microphone rating impedance to 38 ohms, 150 ohms or 40,000 ohms. The Model 55SW shall have a built in "ON-OFF" switch. The Model 55S shall have no "ON-OFF" switch. The microphone rating Gm (Sensitivity) at 1,000 Hz. shall be within ± 3 db of the following levels:

- "L" Position of switch ..... - 148.0 db
- "M" Position of switch..... - 148.5 db
- "H" Position of switch ..... - 151.5 db

EIA Standard SE-105 August 1949

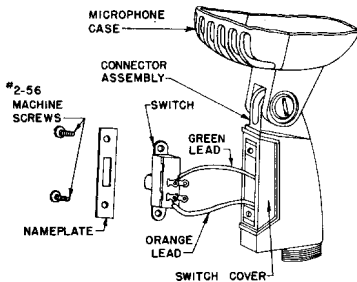
The microphone shall be provided with a swivel and it shall have a detachable cable connector capable of connection to a two-conductor shielded cable. The microphone will mount on stand having 5/8"-27 thread. The overall dimensions shall be 7 3/8 (187.3 mm) ± 1/4 inches in height, 2-3/16 (55.6 mm) ± 1/8 inches in width, and 3-1/16 (77.8 mm) ± 1/8 inches in depth.

## REPLACEMENT COMPONENTS

Dynamic Cartridge..... Model R55  
 Switch..... Model RK32S  
 Cable and Plug Assembly..... Model C55

### INSTALLATION AND CONNECTION OF SWITCH

- A. To install the RK32S Replacement Switch in the Shure Model 55SW, proceed as follows:
1. Remove the two No. 2-56 screws holding the nameplate and cover to the connector assembly.
  2. Remove the nameplate and take switch out of the switch cover on connector assembly.
  3. Unsolder leads from old switch terminals.
  4. Connect the leads to the new replacement switch. Observe lead color and terminal arrangements as in Figure A.



MODEL 55SW SWITCH REPLACEMENT

FIGURE A

5. Re-assemble switch and nameplate back into the connector assembly and fasten the No. 2-56 screws securely.

**Important:** Shure Microphone Cables are selected after exhaustive tests to insure superior performance in microphones because of low capacities, superior shielding properties and unusually long life under severe use.

Cables with plastic insulation should not be subjected to excessive soldering-iron heat. Carefully clean and tin the conductors and the connections to which the conductors are to be soldered. The soldering operation can then be done with a minimum of heat, thereby avoiding any possibility of damage to the cable.

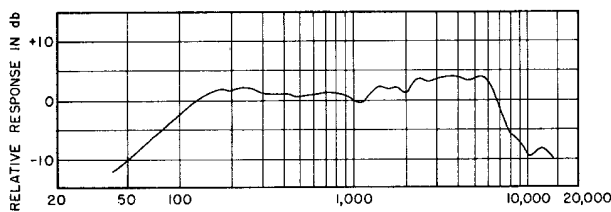
## SPECIFICATIONS

### Type:

Dynamic

### Frequency Response:

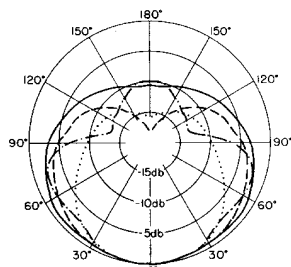
50 to 15,000 Hz. See Figure B.



FREQUENCY RESPONSE  
 FIGURE B

### Polar Pattern:

Cardioid (Unidirectional) Response at rear down 15 db from front. See Figure C.



DIRECTIONAL PATTERNS  
 FIGURE C

### Microphone Rating Impedance:

Equipped with multi-impedance switch, furnishing a choice of 3 impedances: "L" for connections into microphone inputs rated at 25 to 50 ohms; "M" for connections into microphone inputs rated at 150 to 250 ohms; and "H" for connections into high impedance microphone inputs.

### Output Level:

1,000 Hz. response

Models 55S and 55SW "L" Position

Open Circuit Voltage Level..... - 83.0 db\* (0.071 mv)

Loaded with 50 ohms..... - 87.5 db\*

Power Level into 50 ohms..... - 55.5 db\*\*

EIA Microphone Rating

Gm (Sensitivity)..... -148.0 db\*\*\*

Models 55S and 55SW "M" Position

Open Circuit Voltage Level..... - 77.0 db\* (0.141 mv)

Loaded with 250 ohms..... - 81.0 db\*

Power Level into 250 ohms..... - 56.5 db\*\*

EIA Microphone Rating

Gm (Sensitivity)..... -148.5 db\*\*\*

Models 55S and 55SW "H" Position

Open Circuit Voltage Level..... - 55.5 db\* (1.68 mv)

Loaded with 100,000 ohms..... - 57.5 db\*

EIA Microphone Rating

Gm (Sensitivity)..... -151.5 db\*\*\*

\* 0 db = 1 volt per microbar

\*\* 0 db = 1 milliwatt with 10 microbars

\*\*\* 0 db = EIA Standard SE-105, August 1949

### Cable:

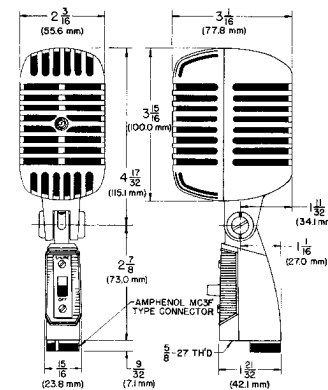
15 foot (4.6 m) two-conductor shielded with Amphe-nol MC3M type microphone plug on the microphone end.

### Case:

Chrome-plated die cast.

### Dimensions:

See Figure D.



OVERALL DIMENSIONS  
 FIGURE D

### Switch:

Model 55S None

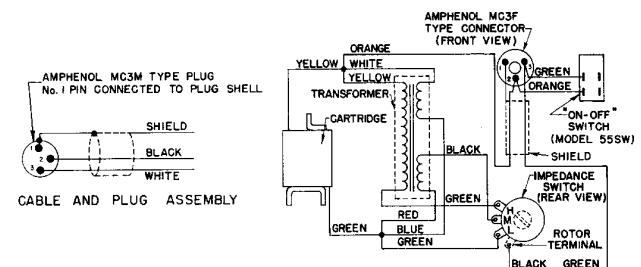
Model 55SW Built-in "ON-OFF" switch to control microphone circuit. The switch is an integral part of the receptacle assembly and is a slide-to-talk locking type switch.

### Net Weight (Less Cable):

1 5/8 pounds (736 grams)

### Packaged Weight:

3 1/8 pounds (1,417 grams)



CIRCUIT DIAGRAMS  
 FIGURE E